

Scrutiny of the type designations and type selections made for the genera *Laternaria* Linnaeus, 1764, and *Fulgora* Linnaeus, 1767, strongly suggests that these genera have the same species, *Cicada laternaria* Linnaeus, 1767, as their respective type species and almost the universal practice of students of this group has been to treat as the type species of *Fulgora* the above species which certainly is the type species of *Laternaria*.

It is considered that in this case the application of the Law of Priority, which was designed to stabilise nomenclature, would have the opposite effect. It would lead to the suppression, as a synonym, of one of the earliest and best known generic names in zoology (*Fulgora* Linnaeus, 1767) and with it the series of supergeneric terms founded upon it, and would leave in its stead a name (*Laternaria* Linnaeus, 1764) which only students of the Hemiptera are likely to recognise and which only two or three have used as the basis of the name for a supergeneric unit. The name *Fulgora* Linnaeus presents a clear case of a name which should be preserved for the sake of avoiding confusion.

Action by the International Commission on Zoological Nomenclature desired: The International Commission on Zoological Nomenclature are asked (1) to use their plenary powers (a) to suppress the generic name *Laternaria* Linnaeus, 1764, and (b) to validate the generic name *Fulgora* Linnaeus, 1767, and (2) to place the latter generic name (with *Cicada laternaria* Linnaeus, 1758, as type species) on the *Official List of Generic Names in Zoology*.

REPORT ON THE PROPOSAL THAT THE GENERIC NAME "FULGORA" LINNAEUS, 1767 (CLASS INSECTA, ORDER HEMIPTERA) SHOULD BE VALIDATED UNDER THE PLENARY POWERS

By FRANCIS HEMMING, C.M.G., C.B.E.

(Secretary to the International Commission on Zoological Nomenclature)

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Mr. R. C. Fennah has asked the International Commission on Zoological Nomenclature to use its plenary powers to validate the generic name *Fulgora* Linnaeus, 1767 (Class Insecta, Order Hemiptera) and thus to avoid the serious confusion which would be likely to arise if that name were to be discarded in favour of the virtually unknown name *Laternaria* Linnaeus, 1764. Mr. Fennah first wrote to the Commission on this subject in August 1944. After expressing the belief that, under the *Règles*, *Fulgora* Linnaeus, 1767, was an objective synonym of *Laternaria* Linnaeus, 1764, the two genera having the same species as their respective type species, Mr. Fennah then pointed out that the question at issue involved not only the status of the generic name *Fulgora* itself for within the previous 137 years a large number of terms had been applied to units of higher taxonomic rank based upon the word "Fulgora". In this connection he cited the terms: Fulgorellae, Fulgorida, Fulgorides,

Fulgores, Fulgorina, Fulgoriens, Fulgoritae, Fulgoridea and Fulgoridae. Mr. Fennah continued as follows :- "In the interests of nomenclatorial stability I consider that the group names based on *Fulgora* Linnaeus should be preserved, on either or both of the following grounds: (1) The group name based on *Fulgora* has been universally employed for 137 years, and should be conserved on the basis of long usage; (2) The group name based on *Fulgora* is the oldest supergeneric name, based on a valid genus, and therefore should take priority over any other existing or potential supergeneric name." In the foregoing communication Mr. Fennah did not formulate concrete proposals for securing the object which he had in view, but not long afterwards, following upon a correspondence between Mr. Fennah, Dr. W. E. China (British Museum (Natural History)) (with whom Mr. Fennah had been in communication before he approached the Commission on this case) and myself, Mr. Fennah's present application was formally submitted to the Commission. The possible use of the plenary powers in the present case was advertised in the prescribed manner in December 1947. No objection of any kind was received in response to this advertisement.

2. The purpose of the present Report is to discuss two matters arising out of Mr. Fennah's application: first to examine in closer detail what is the position under the *Règles*, as regards the type species of the nominal genera *Laternaria* Linnaeus, 1758, and *Fulgora* Linnaeus, 1767; second, to elaborate to such extent as may be necessary, the recommendations submitted regarding the action required, if the Commission decides to approve the stabilisation of the generic name *Fulgora* in its accustomed sense, in order that action may comply with the decisions taken in Paris in 1948 by the Thirteenth International Congress of Zoology in regard to the manner in which cases of this kind should be dealt with.

I. The type species of the nominal genera "*Laternaria*" Linnaeus, 1764, and "*Fulgora*" Linnaeus, 1767

3. *The type species of the nominal genus Laternaria Linnaeus, 1764*: This nominal genus, as originally established by Linnaeus contained two nominal species, namely: (1) *Cicada phosphorea* Linnaeus, 1758; (2) *Cicada candelaria* Linnaeus, 1758. The first of these nominal species is subjectively identified by specialists with the nominal species *Cicada laternaria* Linnaeus, 1758, and, on the basis of this subjective identification, the argument has been advanced that the latter species is automatically the type species of the nominal genus *Laternaria* Linnaeus, 1764, by absolute tautonymy under Ruly (d) of Article 30. This particular argument is fallacious, for it assumes that it is possible for the type species of a genus to be a nominal species not included in the genus concerned at the time when the generic name was first published. Fortunately, however, a closer inspection of the *Museum Ludovicae Ulricaë* of Linnaeus shows that at the time when Linnaeus first published the generic name *Laternaria*, he included, in the synonymy of the first of the two nominal species which he then referred to that genus (*Cicada phosphorea* Linnaeus, 1758) the reference "Syst. Nat. 434 No. 1". This reference is to page 434 of the 10th edition of the *Systema Naturae*, where the species bearing the number "1" is *Cicada laternaria* Linnaeus, 1758.

4. Thus, the nominal species *Cicada laternaria* Linnaeus, 1758, was included by Linnaeus in the genus *Laternaria* Linnaeus, 1764, as a synonym of one of the nominal species then recognised by him as belonging to that genus. The point which has next to be considered is whether the inclusion in a specific synonymy of the name of a nominal species constitutes, for the purposes of Article 30, the citation of that nominal species as one of the species originally included in the genus concerned. If the answer to this question is in the affirmative, then in the present case the nominal species *Cicada laternaria* Linnaeus, 1758, is the type species of the genus *Laternaria* Linnaeus, 1764 by absolute tautonymy; if on the other hand, the answer to this question is in the negative, then the above nominal species is not one of the originally included species of the genus *Laternaria*, and, as the subjective identification of *Laternaria phosphorea* (Linnaeus) (= *Cicada phosphorea* Linnaeus, 1758) with *Cicada laternaria* Linnaeus, 1758, by later authors is irrelevant, when considering what is the type species of this genus, it would be necessary in that event to turn to the later literature to find out which of the two originally included species had first been selected as the type species of *Laternaria* by a subsequent author.

5. At the time when Mr. Fennah's application was submitted to the Commission there existed no authoritative ruling on the question discussed above; in consequence, it was not possible to ascertain, without special reference to the International Commission, whether or not *Cicada laternaria* Linnaeus, 1758, was the type species of the genus *Laternaria* Linnaeus, 1764. It was not until July 1948 that the question of principle involved was settled by the Thirteenth International Congress of Zoology, when it defined the species which, for the purposes of Article 30, were to be regarded as the nominal species originally included in any given nominal genus and which alone therefore were eligible to become the type species of that genus. On this question the Congress decided that words should be inserted in the *Règles* "to make it clear (a) that the nominal species to be regarded as having been included in a given nominal genus at the time when the name of that genus was first published are (i) the nominal species cited by the original author as valid taxonomic species belonging to that nominal genus and (ii) any nominal species cited on that occasion as synonyms of nominal species falling in (i) above, and that the foregoing nominal species are alone eligible for selection as the type species" (see 1950, *Bull. zool. Nomencl.* 4 : 179-180).

6. In the light of the foregoing decision by the Paris Congress, we see at once that *Cicada laternaria* Linnaeus, 1758, is to be regarded as one of the nominal species included in the genus *Laternaria* Linnaeus, 1764, at the time when that generic name was first published. Now that this proposition has been established, it follows automatically, under Rule (d) in Article 30, that *Cicada laternaria* Linnaeus, 1764, is the type species of the nominal genus *Laternaria* Linnaeus, 1764, by absolute tautonymy.

7. *The type species of the nominal genus Fulgora Linnaeus, 1767* : As pointed out by Mr. Fennah, Linnaeus in 1767 included in the new genus *Fulgora* (i) the two nominal species which, three years earlier he had placed in the then newly named genus *Laternaria* Linnaeus, 1764, and (ii) seven other nominal species not mentioned by Linnaeus at the time when he published the generic name *Laternaria*. From a practical point of view Linnaeus may certainly be

regarded as having substituted in 1767 the new generic name *Fulgora* for the generic name *Laternaria* which he had first published three years earlier (in 1764). Nor is the reason far to seek: throughout his writings Linnaeus invariably rejected a generic name that was tautonymous with the trivial name of one of the included species. This problem did not, from his point of view, arise in 1764, when he first published the generic name *Laternaria*, for on that occasion he applied the trivial name *phosphorea* Linnaeus, 1758 (originally published in the binominal combination (*Cicada phosphorea*) to the species to which in 1758 he had applied the trivial name *laternaria* Linnaeus, 1758 (in the binominal combination *Cicada laternaria*). In 1767, however, Linnaeus decided to discard the name *phosphorea* Linnaeus, 1758, as the trivial name of the species in question and to restore to it the trivial name *laternaria* Linnaeus, 1758. If Linnaeus had taken no other action in 1767, this species would then have had the tautonymous name *Laternaria laternaria* (Linnaeus, 1758). But this would have offended against Linnaeus' rule that tautonymy of this kind was to be barred and it can hardly be doubted that it was to get over this difficulty that he dropped the generic name *Laternaria* Linnaeus, 1764, and applied to the genus in question the new generic name *Fulgora*, the name of the species with which we are here concerned thus becoming *Fulgora laternaria* (Linnaeus, 1758).

8. While the above is, I am convinced, the correct explanation of the action taken by Linnaeus in this matter, we are concerned, from the point of view of nomenclature not with the reasons which prompted the action taken by Linnaeus but with the nomenclatorial consequences of that action, judged solely by the wording used in the *Règles*. Rule (f) in Article 30 contains a provision that Mr. Fennah has argued is, and which I myself formerly considered could be held to be, applicable to the present case. This Rule reads: "In case a generic name without originally designated type species is proposed as a substitute for another generic name, with or without type species, the type species of either, when established, becomes *ipso facto* the type species of the other." We are accordingly confronted here, with the need for an interpretation of Rule (f) in Article 30, for, in the absence of such an interpretation, it is impossible to make any progress with the consideration of the question of the type species of the genus *Fulgora* Linnaeus. The Thirteenth International Congress of Zoology at Paris in 1948 decided that, in future, general questions relating to the interpretation of the *Règles* are not to be dealt with by the Commission in *Opinions* relating to individual nomenclatorial problems but are to be considered separately, decisions reached on such matters being recorded in *Declarations* (see 1950, *Bull. zool. Nomencl.* **4**: 136-137). In accordance with the procedure so prescribed, I have prepared a separate application (File ZN.(S.)539),² in which I discuss what appear to me to be the relevant considerations in this matter and arrive at the conclusion, which I there submit for the favourable consideration of the International Commission, that, in order to be brought within the scope of Rule (f) of Article 30, a generic name must have been published with an express intimation that it was put forward as a substitute for some other name. It is necessary, for the purposes of the present application, to make some assumption as to the meaning to be attached

² See pp. 45-48 below.

to the foregoing Rule, and I have therefore assumed that that Rule has the meaning which, for the reasons explained in application Z.N.(S.)539, I believe that it has and which I therefore recommend the Commission to endorse. Naturally, if the Commission were to take a different view, it would be necessary to re-examine the case of the name *Fulgora* Linnaeus in the light of the decision so taken. Meanwhile, the provisional adoption of the foregoing assumption renders it possible to make progress with the present case.

9. The type species of the genus *Fulgora* Linnaeus was not designated or indicated under any of the Rules lettered (a) to (d) in Article 30; nor, on the assumption adopted in paragraph 8 above, was the type species of this genus determined under Rule (f) in Article 30, for, when Linnaeus published the generic name *Fulgora* in 1767, he said nothing to imply that it was a substitute for the earlier name *Laternaria* Linnaeus, 1764. Accordingly (subject to the reserve specified in the preceding paragraph) we reach the conclusion that the type species of the genus *Fulgora* Linnaeus, 1767, can only be determined under the one remaining Rule in Article 30, namely Rule (g) (type species by subsequent selection).

10. When in 1767 he established the nominal genus *Fulgora*, Linnaeus placed in it altogether nine nominal species, namely (1) the five nominal species which in 1758 he had described as belonging to the Section "Noctilucae" of the genus *Cicada*—of which three (*phosphorea*, *laternaria* (then treated as identical with *phosphorea*) and *candelaria* were in 1764 placed in the genus *Laternaria*—and (2) four nominal species then named for the first time (namely *Fulgora diadema* nov. sp.; *Fulgora flammea* nov. sp.; *Fulgora truncata* nov. sp.; *Fulgora europaea* nov. sp.). Any one of these nominal species is, therefore, eligible to be selected as the type species of the genus *Fulgora* Linnaeus by a later author, acting under Rule (g) in Article 30. It is necessary therefore to examine the literature, to determine which of these nine nominal species was first so selected.

11. The first author on whose behalf a claim has been advanced that he selected a type species for the genus *Fulgora* Linnaeus is Sulzer (1776). This claim, which was advanced first by Kirkaldy in 1913, is examined by Mr. Fennah in the application which he has submitted to the Commission, where the passage in Sulzer relied upon by Kirkaldy is quoted in full. Mr. Fennah concludes that Sulzer's action cannot possibly be regarded as constituting the selection of a type species for the genus *Fulgora* Linnaeus; I entirely share his view.

12. The next work which has to be considered is Latreille's *Consid. gén. Crust. Arach. Ins.* of 1810, the entries in which, as noted by Mr. Fennah, have been accepted by the International Commission as constituting selections of type species for the genera there enumerated in every case where one species only was specified by Latreille (*Opinion* 136). On turning to this work, we find that Latreille cited one species only, "*Fulgora europaea* Fab." under the generic name "*Fulgore*" (French) and *Fulgora* (Latin). Fabricius himself never published the binominal combination *Fulgora europaea* as a new name and there is thus nomenclatorially no such name as *Fulgora europaea*. What Fabricius did do in 1775 (in the *Systema Entomologiae*: 674) was to cite a nominal

species under the binominal combination *Fulgora europaea*, which he correctly attributed to Linnaeus. The nominal species *Fulgora europaea* Linnaeus, 1767, is therefore the species which was selected by Latreille as the type species of *Fulgora* Linnaeus, 1767. As that species was (as we know) one of the species originally included by Linnaeus in the genus *Fulgora* and as no type species had been designated, indicated or selected for this genus prior to the action taken by Latreille in 1810, that author's selection of *Fulgora europaea* Linnaeus, 1767, is valid under the *Règles* and that species is the type species of the genus *Fulgora* Linnaeus, 1767.

13. It is important in this connection to note that the nominal species *Fulgora europaea* Linnaeus, 1767, is currently referred to the genus *Dictyophara* Germar, 1833 (*Rev. Ent.* **1**(4): 175), of which indeed it is the type species by subsequent selection by Desmarest (1845) (*in d'Orbigny, Dict. univ. Hist. nat* (nouv. ed.) **5**: 121).

Further, as Mr. Fennah has pointed out (*in litt.*, 1945), the above genus is the type genus of a currently recognised family, the DICTYOPHARIDAE. It follows from what has been said in paragraph 12 above that the generic name *Dictyophara* Germar, 1833, is under the *Règles* an objective synonym of the generic name *Fulgora* Linnaeus, 1767, each of these nominal genera having the same species as its type species. The confusion likely to follow the loss by the species concerned of so well known a generic name as that of *Fulgora* would naturally be very greatly aggravated if in addition that name remained a valid name but had to be applied to some entirely different genus (in this case, the genus *Dictyophara* Germar). Serious as in any circumstances such consequences would be, they would be very seriously intensified in the present case through the necessity of using the family name FULGORIDAE for the family at present known as the DICTYOPHARIDAE. In this connection, it will be recalled that at the time when the International Congress of Zoology first granted plenary powers to the International Commission on Zoological Nomenclature to suspend the operation of the *Règles*, the avoidance of transfers of generic names from one genus to another (as the application of the *Règles* in the present case would require) was specifically prescribed as one of the purposes for which the plenary powers were granted to the Commission.

II. The reputed generic name "Noctiluca" Houttuyn, 1766 in relation to the generic name "Fulgora" Linnaeus, 1767

14. In the year 1947 attention was drawn in connection with the present case to a reputed generic name *Noctiluca* Houttuyn, 1766, stated to have been published in 1766 in that author's *Natuurlyke Historie*; this name, it was claimed, had priority over, and should therefore under the *Règles* replace, the generic name *Fulgora* Linnaeus, 1767. In these circumstances it was obvious that this was a matter which must at once be investigated, for it would clearly be pointless to ask the Commission to validate the name *Fulgora* Linnaeus, 1767, as against the name *Laternaria* Linnaeus, 1764, while still leaving *Fulgora* Linnaeus liable to be replaced by the earlier name *Noctiluca* Houttuyn.

15. At Mr. Fennah's request this matter was therefore at once investigated by Dr. W. E. China (British Museum (Natural History)), who, on consulting

Houttuyn's *Natuurlyke Historie*, found that author had not employed the term *Noctiluca* as a generic name and had not used it in the nominative singular. What he did was to employ this word in the nominative plural, i.e. as "Noctilucae," "in exactly the same sense as did Linnaeus in the *Syst. Nat.* of 1758, that is, as a subdivision of *Cicada*." This discovery put an end to all threat to *Fulgora* from this quarter, for already in 1944 the Commission had rendered an *Opinion* (*Opinion* 183) in which they had ruled that, in order to acquire availability as a generic name, a word must not only be a noun substantive, but must also have been published in the nominative singular. This ruling was in 1948 incorporated into the *Règles* by a decision taken by the Thirteenth International Congress of Zoology (see 1950, *Bull. zool. Nomencl.* 4 : 139-140). It will be seen therefore that the alleged generic name *Noctiluca* Houttuyn, 1766, possesses no existence under the *Règles*, being a mere cheironym. As such, it should, like other cheironyms which have given trouble in the past, be put finally to rest by being registered in the *Official Index of Rejected and Invalid Generic Names in Zoology*.

Summary of Conclusions reached on the data available

16. We may now summarise as follows the conclusions which may be drawn from the data available in regard to the present case :—

- (1) The generic name *Laternaria* Linnaeus, 1764, is an available name and the nominal genus in question has *Cicada laternaria* Linnaeus, 1758, as its type species by absolute tautonymy (paragraph 6).
- (2) There is no such generic name as the alleged generic name *Noctiluca* Houttuyn, 1766, which is a mere cheironym (paragraph 15).
- (3) The generic name *Fulgora* Linnaeus, 1767, is an available name and the nominal genus in question has, as its type species, *Fulgora europaea* Linnaeus, 1767, by subsequent selection by Latreille in 1810 (paragraph 12).
- (4) The nominal species *Cicada laternaria* Linnaeus, 1767, is currently referred to the genus *Fulgora* Linnaeus, 1767, the older generic name *Laternaria* Linnaeus, 1764, not being in use. As used in this sense, the generic name *Fulgora* Linnaeus has formed the basis of the family name FULGORIDAE, which is in universal use (paragraph 1).
- (5) The nominal species *Cicada europaea* Linnaeus, 1767 (the type species, under the *Règles*, of the genus *Fulgora* Linnaeus, 1767) is currently placed in the genus *Dictyophara* Germar, 1833, of which it is the type species. As used in this sense, the generic name *Dictyophara* Germar has formed the basis of the family name DICTYOPHARIDAE, which, like the family name FULGORIDAE, is now in general use (paragraph 13).
- (6) The strict application of the *Règles* in the present case would thus (a) deprive the species universally known as *Fulgora* of the generic name which has been for so long applied to them, and (b) involve the confusing transfer of that generic name to the genus now known by the name *Dictyophara* Germar. A further result of the strict application of the *Règles* would be that the family now known by the name FULGORIDAE would need to be known by the name LATERNARIIDAE, while the family name FULGORIDAE would need to be transferred to the family now known by the name DICTYOPHARIDAE.

17. The question which it will, therefore, be necessary for the International Commission on Zoological Nomenclature to consider is whether the undoubted *prima facie* case advanced by Mr. Fennah, with the support of Dr. China, is such that the use of the plenary powers would be justified in order to preserve the accustomed use of the generic name *Fulgora* Linnaeus and of the family name FULGORIDAE and to prevent those names from being transferred respectively to the genus now known by the name *Dictyophara* Germar and the family now known as DICTYOPHARIDAE.

18. In the event of the Commission deciding that this is certainly a case where the strict application of the *Règles* would give rise to quite unjustified confusion and therefore that the plenary powers should be used in the interests of nomenclatorial stability, the detailed action which the Commission would need to take would be the following :—

(1) use the plenary powers :—

- (a) to suppress the generic name *Laternaria* Linnaeus, 1764, for the purposes of the Law of Priority but not for those of the Law of Homonymy ;
- (b) to set aside all selections of type species for the nominal genus *Fulgora* Linnaeus, 1767, made prior to the proposed decision ;
- (c) to designate the nominal species *Cicada laternaria* Linnaeus, 1758, to be the type species of the nominal genus *Fulgora* Linnaeus, 1767 ;

(2) declare the alleged generic name *Noctiluca* Houttuyn, 1766, to be a cheironym ;

(3) place the following generic names on the *Official List of Generic Names in Zoology*, with the type species severally specified below :—

- (a) *Fulgora* Linnaeus, 1767 (gender of generic name : feminine) (type species, as designated under the plenary powers under (1)(c) above : *Cicada laternaria* Linnaeus, 1758) ;
- (b) *Dictyophara* Germar, 1833 (gender of generic name : feminine) (type species, by selection by Desmarest (1845) : *Fulgora europaea* Linnaeus, 1767) ;

(4) place the under-mentioned generic names and alleged generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :

- (a) the generic name *Laternaria* Linnaeus, 1764, as suppressed under (1)(a) above ;
- (b) the alleged generic name *Noctiluca* Houttuyn, 1766, declared to be a cheironym under (2) above ;

(5) place the under-mentioned specific trivial names on the *Official List of Specific Trivial Names in Zoology* :—

- (a) *laternaria* Linnaeus, 1758 (as published in the binominal combination *Cicada laternaria*) ;
- (b) *europaea* Linnaeus, 1767 (as published in the binominal combination *Fulgora europaea*).